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09/890387

PCT/EP 00/00559

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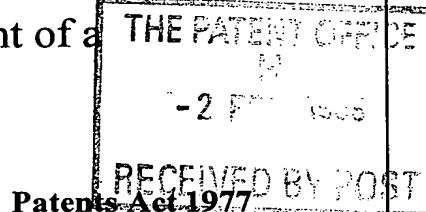
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Form 1/77

**Title of invention**

Container

Applicant's details

First or only applicant

9902138.82a If you are applying as a corporate body please give:
Corporate Name

SmithKline Beecham p.l.c.

Country (and State of incorporation, if appropriate) United Kingdom

2b If you are applying as an individual or one of a partnership please give in full:

Surname

Forenames

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Address: New Horizons Court, Brentford Middlesex
TW8 9EP

(if applicable)

Country (if known) England
ADP Number

0417123105
05800974003

Reference number

RFW/EB/C70376

4. Agent's or applicant's reference number (if applicable)

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5. Are you claiming that this application be treated as having been filed on the date of filing of an earlier application Yes

go to 6

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Please supply duplicates of claim(s), abstract, description and drawings).

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Yes No *A Statement of Inventorship on Patents*
form 7/77 will need to be filed (see Rule 15).J.

Checklist

8a Please fill in the number of sheets for each of the following types of document contained in this application

2 *uninformed amendment with Dr Walker*
Claims 2 Specification 4 *8A*

Abstract Drawing(s) 1

8/1/99
2.2.99

8b Which of the following documents also accompanies the application?

Priority documents (please state how many) -

Translation(s) of Priority documents (please state how many) -

Patents Form 7/77 - Statement of Inventorship and Right to Grant -

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Patents Form 10/77 - Request for Substantive Examination -

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I/We request the grant of a patent on the basis of this application.

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Signed Ralph Walker Dated 1 February, 1999

Ralph Francis Walker

Agent for the Applicant

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Container

This invention relates to containers and in particular to containers with plastics material walls whose contents can undesirably leach through the container walls or 5 which are sensitive to ingress of material through the container walls.

Plastics containers are commonly used to contain medicaments. If a label is applied to the outer wall of such a container the adhesive which binds the label onto the container surface or alternatively the printing ink which is used when information is 10 printed directly onto the container surface may permeate through the wall thereby contaminating the contents of the container, potentially leading to harmful effects. When the content of the container is a medicament, it may be necessary to conduct a clinical trial of any new labelling material applied to the container wall so as to ensure that the medicament is not compromised by any aspect of the packaging, 15 including the properties of the adhesive and printing inks. New adhesives, printing inks or plastics materials may have to be sought which do not give rise to the problem discussed above, although this approach is both time consuming and expensive, particularly if clinical trials are required to prove that the new adhesive or ink does not cause contamination of the contents. Conversely the contents of 20 such a plastic walled container may seep through the walls and may have a deleterious effect on a label on the outer surface of the container e.g. causing a label fixed by adhesive to become detached or to discolour the printing ink.

It is an object of the present invention to at least partly provide a solution to the 25 problem of how to prevent contamination arising from ingress through the container wall of contaminants such as adhesives or printing ink(s).

According to a first aspect of this invention a container is provided having a body defined by a container wall, at least part of the wall comprising spaced apart inner 30 and outer walls, a label being located on the outer surface of the outer wall.

The arrangement of the invention enables the contents of the container to be directly enshrouded by a wall, being in contact with the inner surface of the wall, yet not being vulnerable to contamination by the adhesive or printing ink of the label, whether attached by adhesive or directly printed on the outer surface of the 5 container wall, should this permeate through the wall. Consequently the adhesive or ink cannot contaminate the contents by penetration of the wall, and vice versa the content cannot penetrate the wall and affect the label.

In a first embodiment the outer wall of the container may comprise a skirt portion

10 spaced apart from the inner wall and this skirt portion may be an upper skirt for example surrounding an inner wall. In this embodiment the inner wall may comprise the upper part of the body and may include the mouth opening of the container.

15 In a second embodiment the skirt portion may be a lower skirt surrounding the bottom of the container-body.

In another aspect the invention provides a container defined by a container wall at least part of the container wall comprising spaced apart inner and outer walls 20 wherein the outer wall is in the form of an upper skirt portion surrounding an inner wall and the inner wall defines the rim of the mouth opening of the container.

The upper or lower skirt portion may have a label fixed to its outer surface by adhesive or alternatively information may be printed directly onto the skirt portion. 25 The abovementioned upper and lower skirts may depend from a part of the body wall which directly enshrouds the contents of the container i.e. so that the contents of the container are in direct contact with the inner surface of this part of the body wall, but are not in contact with the inner surface of the upper and/or lower skirt portion.

30

The container may be made of entirely conventional plastics material for example polyethylene, polyethyleneterphthalate etc. The container may be of any shape

appropriate for its intended use for example generally cylindrical, which term includes container of oval cross section with a flat or curved bottom surface and may for example be a bottle. When the container is of generally cylindrical shape, then the upper and lower skirts may also be of generally cylindrical shape e.g. of

5 substantially the same cross sectional shape as the container. When the container is provided with upper or lower skirts these may be made integrally with the container body or may be separately fitted to the container body, for example by adhesive, welding or a physical connection such as a snap fit. The container may be in the form of a squeezable bottle.

10 The container may be otherwise generally conventional and also provided with a suitable closure means for its mouth opening such as a snap fit or screw threaded cap. The container may further comprise delivery means to deliver fluid contents to for example a nozzle, comprised by the mouth opening of the container, such as a feed tube leading from the mouth opening to the vicinity of the bottom of the

15 container. In this embodiment the bottom is preferably convex relative to the interior with the end of the feed tube in the vicinity of the bottom of the convexity. When provided with a bottom of this convex shape a lower skirt may surround the convex bottom. The term "convex" used herein includes generally hemispherical or conical shapes.

20 The container may be made by conventional methods such as blow moulding or injection moulding. Another aspect of the invention provides moulds for making containers of the present invention and furthermore a process e.g. an injection moulding or blow moulding process using such moulds for making the container of

25 the invention.

The present invention also provides a method of labelling a container having a wall material which is permeable to a label material and/or to its contents wherein a label is applied to an outer wall by means of adhesive or may be printed directly thereon.

30 The container will now be described by way of example only with reference to the accompanying drawing in which Fig.1 shows a part longitudinal section of a

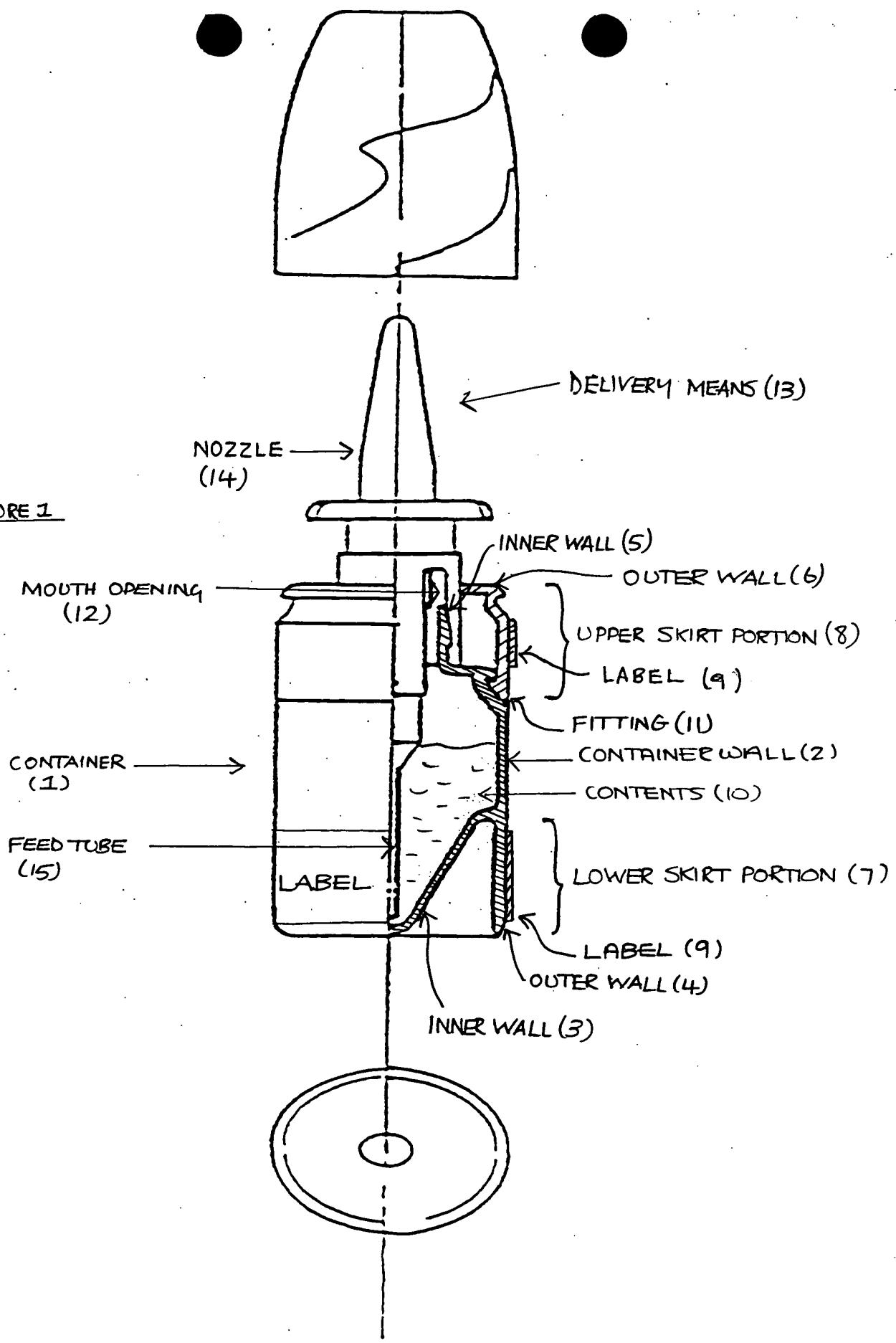
container of the invention. Referring to Fig.1, a container of this invention comprises a bottle-shaped container 1 of generally cylindrical shape with a generally conical bottom with its concave site toward the interior of the container, defined by a container wall 2. The container 1 is provided with pairs of spaced apart inner and outer walls, being a lower pair 3, 4 and an upper pair 5, 6. The outer wall of each of these pairs 3, 4 and 5, 6 respectively is in the form of a lower skirt portion 7 and an upper skirt portion 8. The lower skirt portion 7 depends from the container wall 2 and surrounds the conical bottom of the container 1. This conical bottom consequently comprises the inner wall 3. A label 9 is attached by adhesive to the outer surface of the outer wall 4. An upper skirt portion 8 extends from the container wall 2 and may also have a label 9 applied to it. Liquid contents 10 are within the container wall 2. By locating the label 9 only on the outer wall 4 of the lower skirt 7 and/or the upper skirt 8 not on an outer surface of the container wall 2 of which the inner surface of the inner wall 3 is in contact with the contents 10, the liquid contents 10 and label 9 are consequently not facing each other on opposite sides of the same region of container wall 2. Therefore adhesive from the label 9 cannot leach through the container wall 2 and contaminate the contents 10 and vice versa the contents 10 cannot leak through container wall and affect the label 9. The lower skirt portion 7 is made integrally with the container wall 2. The upper skirt portion 11 is made separately and is fitted to the upper part of the container wall 2 by a snap fit fitting at 11. The upper skirt 8 may alternatively be made separately and fitted to the container 1 or the lower skirt 7 may be made integrally with the container 1. The container 1 is provided with a mouth opening 12 which has a rim by the upper part of the inner wall 5 of the container wall 2. The container 1 is also provided with a delivery means 13 (generally) comprising a nozzle 14 and a feed tube 15. The nozzle 14 fits tightly onto the mouth opening 12 of the container by a snap fitting. The feed tube 15 reaches down toward the lowest part of the conical bottom of the container and feeds liquid to the nozzle 14 from the body 1 in a known manner for example via a pump mechanism (not shown) or by making the container wall of compressible material and squeezing the container.

Claims

1. A container defined by a container wall at least part of the wall comprising spaced apart inner and outer walls wherein a label is located on the outer surface of the outer wall.
5
2. A container according to claim 1 wherein the outer wall comprises a skirt portion spaced apart from the inner wall.
- 10 3. A container according to claim 2 wherein the skirt portion is an upper skirt.
4. A container according to claim 2 wherein the skirt portion is a lower skirt.
- 15 5. A container defined by a container wall, at least part of the container wall comprising spaced apart inner and outer walls wherein the outer wall is in the form of an upper skirt portion surrounding the inner wall and the inner wall defines the rim of a mouth opening of the container.
6. A container according to claim 5 wherein the skirt portion further comprises a label.
20
7. A container according to any one of claims 1 to 6 wherein the said container is in the form of a squeezable bottle.
- 25 8. A container according to any one of claims 1 to 7 wherein the container comprises a delivery means to deliver fluid contents from the mouth opening to the vicinity of the bottom of the container.
9. A mould for making a container as defined herein.
30
10. A method of labelling a container said container having a wall material which is permeable to a label material and/or to its contents wherein the

label is applied to an outer wall by means of adhesive or may be printed directly thereon.

FIGURE 1



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